



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: ) Before the Examiner:  
 )  
 James E. Lange )  
 )  
 Serial No: 10/730,628 ) Group Art Unit:  
 )  
 Filed: 12/08/2003 )  
 )  
 Sonic Drill Head )

**INFORMATION DISCLOSURE STATEMENT**

Applicants hereby submit the attached documents listed on the attached PTO Form 1449 in accordance with 37 CFR §1.97(b)(3), as these documents are being submitted before the first Office Action. Copies of the cited items are enclosed in accordance with 37 C.F.R. § 1.98.

The filing of this Information Disclosure Statement shall not be construed as an admission that the information cited is, or is considered to be, material to patentability as defined in § 1.56(b), or that these documents are prior art.

It is believed that no fee is required for consideration of the submitted items. Should any fee be required, however, please charge such fee to Deposit Account No. 02-0387, but not to include any payment of issue fees.

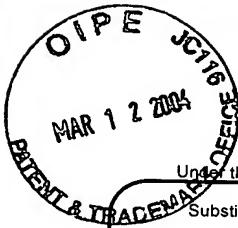
Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: March 10, 2004

Michelle L. W. Horvath  
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 4

## Complete if Known

Application Number	10/730,628
Filing Date	12/08/2003
First Named Inventor	Lange
Art Unit	
Examiner Name	

Attorney Docket Number DIE0008.02

## U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 1,763,146	06-10-1930	Goodwin	
		US- 2,743,585	05-01-1956	Berthet et al.	
		US- 3,190,369	06-22-1965	Pyles	
		US- 3,217,551	11-16-1965	Bodine Jr.	
		US- 3,467,207	09-16-1969	Pyles et al.	
		US- 3,786,874	01-22-1974	Jodet et al.	
		US- 4,023,628	05-17-1977	Bodine	
		US- 4,217,753	08-19-1980	Loretan	
		US- 4,403,665	09-13-1983	Bodine	
		US- 4,662,459	05-05-1987	Bodine	
		US- 4,693,325	09-15-1987	Bodine	
		US- 4,809,790	03-07-1989	Manchak, Jr.	
		US- 5,027,908	07-02-1991	Roussy	
		US- 5,086,854	02-11-1992	Roussy	
		US- 5,409,070	04-25-1995	Roussy	
		US- 5,417,673	05-23-1995	Gordon	
		US- 5,540,295	07-30-1996	Serrette	
		US- 5,549,170	08-27-1996	Barrow	
		US- 5,562,169	10-08-1996	Barrow	

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		SU 1078018	03-07-1984	Gold Rare ...		<input checked="" type="checkbox"/>
		EP 0240810 A2	10-14-1987	BBC Brown ...		<input checked="" type="checkbox"/>
		JP 10054432	02-24-1998	Okuma Mach ...		<input checked="" type="checkbox"/>

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## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet 2

1 of 4

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Attorney Docket Number D1E0008 02

**U. S. PATENT DOCUMENTS**

## FOREIGN PATENT DOCUMENTS

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				Application Number	10/730,628
				Filing Date	12/08/2003
				First Named Inventor	Lange
				Art Unit	
				Examiner Name	
Sheet	3	of	4	Attorney Docket Number	DIE0008.02

<b>NON PATENT LITERATURE DOCUMENTS</b>			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		"Disc Springs", undated, 1 page	
		"General Fundamentals: Rolling Bearing Types", undated, pages 1-13	
		"Mutually-Opposed Springs", undated, page 15	
		Boart Longyear Company, "Environmental Drilling Division: Sonic Drilling", undated, 12 pages	
		"Sonic Drilling Ltd. : Industry in Action", undated, 2 pages	
		"Mechanisms Simplify Timing Between Shafts", undated 2 pages	
		Smallwood, David O., "Vibration Testing Machines", Schock and Vibration Handbook, 4th Edition; Cyril M. Harris, undated, 5 pages	
		ResonantSonic Drilling - Innovative Technology Summary Report", U.S. Department of Energy - Office of Environmental Management - Office of Technology Development, (Online) April1995, Retrieved from the Internet: <a href="http://www.em.doe.gov/plumesfa/intech/rsd/index.html">http://www.em.doe.gov/plumesfa/intech/rsd/index.html</a> (retrieved on 7-4-02)	
		Copy of International Search Report in Corresponding International Application, dated July 12, 2002, 2 pages	

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Sheet	4	of	4
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